

VALENTINE NATIONAL WILDLIFE REFUGE

Valentine, Nebraska

Annual Narrative Report

Calendar Year 2006

INTRODUCTION

Valentine National Wildlife Refuge (NWR) was established on August 4, 1935 under the Migratory Bird Conservation Act by Executive Order 7142. The purpose of the refuge as stated in the executive order is “as a refuge and breeding ground for migratory birds and other wildlife.” Acquisition funding came from Duck Stamp sales and the Emergency Conservation Fund Of 1933.

The 71,772-acre Valentine NWR is located in the Sandhills of north-central Nebraska. The Sandhills contain the largest remaining stands of mid and tall grass native prairie left in North America. The refuge is a unique and ecologically important component of the National Wildlife Refuge System. The refuge has about 49,000 acres of grassy, undulating sand dunes, 13,000 acres of sub-irrigated meadows, and 10,000 acres of shallow lakes and marshes. The refuge is home to 271 species of birds, 59 species of mammals, and 22 species of reptiles and amphibians. The refuge is important to nesting and migrating waterfowl and is also one of the few places where good numbers of sharp-tailed grouse and prairie chickens can be found in the same area. Several threatened or endangered birds stop at the refuge during migration. Two listed plants and one listed insect are also found here. Most of the native flora and fauna found here historically are still present today.

The refuge is part of a complex administered from Fort Niobrara NWR. Valentine NWR is in Cherry County with a subheadquarters located on Hackberry Lake, 17 miles south of the town of Valentine on US 83 then 13 miles west on State Spur 16B. Valentine National Wildlife Refuge staff also manage the Yellowthroat Wildlife Management Area in Brown County (see J.3) and four easements (see F.13).

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A. HIGHLIGHTS

In May volunteers transplanted nursery grown blowout penstemon into suitable habitat (E.4)

Botanist Bob Steinauer completed a comprehensive plant inventory documenting over 500 species on the refuge (F.1)

A bi-directional tractor was received and will greatly enhance our ability to complete maintenance tasks (I.4)

One hundred and sixty acres of former cropland was reseeded to native grasses at Yellowthroat WMA (J.3)

B. CLIMATIC CONDITIONS

D. PLANNING

1. Master Plan

2. Management Plan

The Refuge Annual Performance Plan for Valentine NWR that was proposed is a fairly ambitious plan for the staff and resources available to the refuge. We met most of our FY2006 targets with the exception of prescribed fire. The main change for FY07 will be an added emphasis on waterfowl surveys.

4. Compliance with Environmental and Cultural Resource Mandates

Thomas McManus of Environmental Health Services tested Quarters 1,2,10,13, and 20 for lead paint and lead in drinking water on July 25. Results from the tests were not received in 2006.

5. Research and Investigation

E. ADMINISTRATION

1. Personnel

Valentine National Wildlife Refuge is part of the Fort Niobrara/Valentine National Wildlife Refuge Complex with three permanent staff assigned to the station. There were also 2 seasonal firefighters stationed at the refuge this year. Three biological technicians were also hired using Science Support Grant Funds from the grassland bird study. They were hired as USGS employees out of the Northern Prairie Research Station and worked on the refuge.

Mark Lindvall	Refuge Manager	GS-12
Mel Nenneman	Wildlife Biologist	GS-11
Dave Kime	Maintenance Worker	WG-8
Tyler Hunter	Range Aid/Fire fighter	GS-3 (May 12 – August 18)
Cara Zastrow	Range Aid/Fire fighter	GS-3 (May 8-Aug 16)
Carolyn Spilman	Biological Tech.	GS-5 (May 10 – August 9)
Tyler Hicks	Biological Tech.	GS-5 (May 18 – August 12)
Matt Brekke	Biological Tech.	GS-5 (May 15 – August 17)

4. **Volunteers**

Volunteers helped plant about 300 blowout penstemon at Valentine NWR on May 20. We had 2 volunteers from the Rowe Sanctuary, 1 from the local 4 H club, 1 from our friends group, and 4 from town. The Sandhills Prairie Refuge Association provided lunch for the volunteers. A writer and 2 photographers came to do a story for Nebraska Life Magazine.

Tony and Marguerite Brada spent two weeks volunteering at Valentine NWR. They mounted plants collected during the plant inventory, helped with windmill maintenance, and assisted with the buffalo sale at Fort Niobrara. They volunteered for about 100 hours and stayed in their trailer on the refuge. They came to us from volunteering at LaCreek NWR and then went on to Attwater Prairie Chicken NWR for more volunteer work. We sent them a thank you note and the book, *Atlas of the Sandhills*.

5. **Funding**

Valentine National Wildlife Refuge receives funding as part of the Fort Niobrara/Valentine National Wildlife Refuge Complex. In 2006, the following dedicated funds were received.

Replacement of the furnace in Quarters 1 in the amount of \$6,000 was funded via left over FY 05 quarters funds from the RO. The furnace was replaced and AC added in calendar year 2006.

Two MMS equipment rental projects for Valentine NWR were submitted and both were funded in FY 05. Funded were \$4,160 for weed spraying and \$2,400 for a tree shears. Work was done in calendar year 2006.

We received \$2,000 of private lands funding for FY 2006. Our work here is mostly in evaluating and monitoring Wetland Reserve Program properties.

The Revenue Sharing Payment for Valentine NWR to Cherry County for FY 2006 was \$50,133. The payment to Brown County for Yellowthroat WMA was \$377.

Valentine NWR received no deferred maintenance funding for the upcoming year, FY 07. It just does not pay to be a satellite refuge.

Valentine NWR was scheduled to receive \$500,000 for road repairs from Public Lands Highway Discretionary Funds (FY07). The funds are an earmark placed by Congressman Osborne in the Transportation Act. We have been applying for these funds with the Nebraska Department of Roads for about 10 years and when ours were finally in, the funds got tied up in the continuing resolution and we received nothing, plus Osbourne is no longer in office.

A proposal was submitted to the RO for EVS FY 07 funding for construction of a kiosk at the west entrance to Valentine NWR. The request was for \$4,474. The local high school shop class has volunteered to do the construction work. No funds were received.

RONs proposals for the Secretary's American Landscape Initiative were submitted for Valentine NWR. One proposal is for \$17,900 for thistle control, one for \$323,880 for carp removal from the Marsh Lakes, and one for \$3,460 for contract spraying of leafy spurge. No funds were received.

Information on two wetland enhancement projects, one at Valentine NWR and one at Yellowthroat WMA, were sent to Ducks Unlimited and Nebraska Game and Parks. We hope to be able to use DU engineering, state duck stamp funds, and Challenge Cost Share to do this project. DU plans on visiting the site in the spring or summer of 2007 to get an estimate of the costs and amount of work required.

FY 07 Equipment rental funds in the amount of \$5,200 were applied for and received in the rental equipment fund to hire a helicopter to spray Canada thistle in calendar year 2007.

Left over quarters funds (FY07) in the amount of \$7,000 were applied for to replace the furnace and add air conditioning to Quarters 2, \$3,500 was received. The difference will be made up with our quarters funds. The work will be done in 2007.

For FY 2007, Valentine NWR received \$25,000 in Small Equipment Funds to replace the 1998 Dodge pickup used by seasonals. The money was used to buy a new pickup for the Complex LE Officer and we received his old truck. In Large Equipment Funding, Valentine NWR will give up its semi truck and trailer and will share a new truck that will be bought for the Complex. We are hoping to also get a 5th wheel trailer that we can use to haul our heavy equipment around on the refuge.

The visitor services project that was cancelled due to the funds going to Hurricane Katrina work has been again funded in the amount of \$274,032 for FY 07. The project will be done in calendar year 2007.

The Friends of the Sandhills Prairie National Wildlife Refuges board of directors voted to fund a portion (25%) of a rare plant inventory to be conducted at Valentine NWR. Nebraska Game and Parks volunteered to fund the remaining 75%. Valentine NWR will provide housing for the botanist who will conduct the inventory. The total cost of the project is \$10,670. The project will survey rare plants including invasives, enter rare plants in the Heritage database, and provide a description of plant communities.

6. Safety

Monthly safety meetings were held for the Complex. Their content is listed in the Fort Niobrara National Wildlife Refuge Annual Narrative. On April 3, Refuge Manager Lindvall hosted the monthly safety meeting on use and care of fire extinguishers.

On May 9, Refuge Manager Lindvall sprained his ankle when he stepped off an ATV into a hole. A visit to the clinic was necessary but no work time was lost.

In September, Maintenance Worker Kime was injured in an accident at the corrals at Fort Niobrara NWR. He tripped and fell on the cat walk while working bison. He required stitches for cuts sustained in the fall.

7. Technical Assistance

Nenneman worked with a crew of biologists at Baca NWR in central Colorado from 4-11 Aug to produce a vegetation map. This was a combination of training and technical assistance – biologists participating gained experience using Trimble units and refuge lands geographic information systems (RLGIS), and Baca NWR received help with vegetation mapping. Imagery of the 92,000 acre refuge was taken earlier in the year, and the week was spent assessing polygons to determine what vegetation alliance to place the polygon into. This data will be used to “train” the software to determine how to interpret the imagery to create a vegetation map for the refuge. The new versions of RLGIS and ArcView were

used, and the new version of RLGIS is more user-friendly than our current system. The new RLGIS is set for release in October.

8. Other

Refuge Manager Lindvall attended the Project Leaders Meeting held in Wichita, Kansas from February 14-16.

Refuge Manager Lindvall attended the private lands meeting held in Grand Island on March 29 and 30. We had not gotten together as a group for many years. Information on funding and the kinds of projects people are working on was presented. Our work has mostly been in the Wetland Reserve Program.

The annual State Coordination Meeting was held in Valentine on April 5. No major issues came up. Mostly we are working well together on a variety of wildlife and public use projects.

The annual meeting with Congressional staff was held in Valentine on April 6. Basically we briefed them on what we are doing and plan to do on the refuges.

Refuge Manager Lindvall attended the Grassland Conference held in Kearny on August 7 and 8. The conference had a mix of agency biologists and ranchers in attendance and featured speakers from both conservation groups and ranchers.

Mark Lindvall attended the Project Leaders Meeting held at Fort Robinson from October 3-5.

Melvin Nenneman and Mark Lindvall attended a biological meeting of the Sandhills Refuges held at Crescent Lake NWR on October 18 and 19. It was a good opportunity to learn what other areas are doing and to make plans for working together on biological programs. Topics discussed included seed harvesting on refuges and who might need grass seed for renovations, possibilities of getting more blowout penstemon seedlings, habitat management planning and disease contingency planning, invasive plants, vegetation mapping and RLGIS, changes in prescribed fire planning, and possibilities for creating a broader network among resource managers/biologists working in NE. Many thanks go to Marlin French for pulling this meeting together, and the folks at Crescent Lake NWR for hosting the meeting.

Lindvall and Nenneman attended the Midwest Fish and Wildlife Conference held in Omaha from December 4-6. There were many good papers presented on subjects that apply directly to the management of Valentine NWR. One fisheries paper was based on data gathered on the refuge.

Kime and Marge McPeak completed the annual property inventory at Valentine NWR.

The SAMMS update for Valentine NWR was completed in May. The update took much more time this year than past years which were done in MMS. Unfortunately, it will only get worse as we move away from MMS and into SAMMS. SAMMS is not at all user friendly for sorting and querying data. SAMMS year end condition assessment was completed. We had to basically go through every record which was quite time consuming. SAMMS is not user friendly and of little value to us in the field.

Lindvall, Nenneman, and Kime all signed up for DOI Learn

Nenneman, Lindvall, and Kime completed IT Security Training. The training site needs some work. Lindvall spent about 4 hours on 3 different computers to finally get the course completed. To top it off, after following the tips from the help people at DOI Learn, my computer no longer connects to the internet!

Lindvall completed 4 hours of EEO training by watching DVDs.

Lindvall and Nenneman completed the 8 hour annual fire fighter refresher training held in Valentine on May 23.

Refuge Manager Lindvall completed EEO 715 training. Lindvall and Biologist Nenneman completed Records Management Awareness and Orientation to Privacy Act training classes on-line. It was difficult to access the training on all but one computer due to software problems. Dave Kime completed records handling and privacy act trainings via the DOI Learn web site.

Lindvall, Kime, and Maintenance Worker Kime all completed CPR, AED, and First Aid training held in Valentine on September 18. The Red Cross course was taught by staff from the Cherry County Hospital.

Lindvall and Nenneman attended 4 hours of Avian Influenza training held in Valentine on December 14. Dr. Roffe taught the class which dealt with the biology of AI and what we need to do if it shows up here.

Nenneman provided an ATV operators training for the seasonal biological technicians and range technicians on 24 May. The importance of using ATVs safely was stressed throughout the day.

F. HABITAT MANAGEMENT

1. General

2. **Wetlands**

5. **Grasslands**

7. **Grazing**

In 1985 the refuge habitat management program was changed and short-duration grazing started. Prior to 1985, much of the refuge grassland was grazed on a six week rotation. Authorized AUMs for each of the permittees have remained about the same when compared to 1997 levels. In 2006, there were five permittees in the program. All have had permits for many years. Grazing rates were reduced to compensate permittees for the added expense of moving cattle for short duration grazing.

In April, grazing permittees for Valentine National Wildlife Refuge were in to sign up for the 2006-2007 habitat program. AUMs and timing of grazing is similar to last year. An advertisement for grazing under the bid system was also placed in the local paper and existing permittees were contacted. One bid was received and accepted for grazing a portion of Valentine National Wildlife Refuge. The bid received was just above the minimum set and came from the neighbor adjacent to the unit bid out.

Trespass cattle entered the refuge at the water gaps at Coleman Lake in June This is about a yearly problem.

In July, the Cherry County Commissioners passed a resolution calling for Valentine NWR be opened up to grazing due to the drought. The request was put on the local radio station. Senators Hagel and Nelson also called and requested the same. At this time we do not plan on opening up the refuge to additional grazing. Refuges did not allow additional grazing but Nebraska Game and Parks did open up some additional areas.

Grazing fees for 2006 were:

spring grazing treatment	\$19.07/AUM
short-duration grazing	
1 day in unit	\$11.84/AUM
2 days in unit	\$17.24AUM
3 days in unit	\$19.07/AUM
4 days in unit	\$19.80/AUM
5 days in unit	\$20.16/AUM
6 days in unit	\$21.53/AUM
7 days in unit	\$21.90/AUM
8 or more days	\$22.36/AUM

	in unit	
fall		\$22.36/AUM
winter		\$22.36/AUM

The full rate of \$22.36 is an increase of \$1.00 per AUM (the maximum increase permitted per year by policy) from the 2005 fee and is based on a rate survey conducted by USDA and published in Nebraska Farm Real Estate Market Developments. The market rate as determined by USDA for this area in 2006 was \$22.50/AUM. After many years of \$1.00 increases we are finally bumping up against the market rate. The different classes of animals were also changed in 2003 and we now use the US Department of Agriculture Statistics Board conversion factors. Mature cow stayed at 1.00; mature cow with nursing calf went from 1.25 to 1.32; yearling went from .75 to .70; bulls from 1.00 to 1.50; and horse from 1.00 to 1.20.

Permittees also had their grazing bills reduced for improvements and repairs to wells, fence, tanks and other facilities needed for the program. In 2006 about \$57,300 was spent on improvements and deducted from final billings. Several projects, mostly replacement of boundary fence, were not completed and will be done in 2007 using 2006 funds. These are included in the previous total. Permittees were required to hire a contractor to repair fences in the units they used. Basically two fence contractors were hired and they split the fence repair for the five permittees. They were paid \$30 - 34 per hour for a crew of two, and supplied their own gas, tools, vehicle, and equipment. Total fees collected for the 2006 grazing season will be about \$28,600. This total does not include the value of the refuge share of hay.

The methods and expected results for the different grazing strategies are explained below. The acreage of grassland treated with each type of grazing is listed in Table F7a.

a. **Spring Grazing Treatment**

Spring grazing treatment (SGT) is done before the end of May on sub-irrigated meadow sites. The cattle are in the unit for greater than two weeks. Cattle eat or trample almost all of the residual cover. They also over graze and thus reduce undesirable cool season exotic grasses (Kentucky bluegrass and brome). Cattle can be placed in a unit to remove residual and then brought back in later to hit the cool season exotics. In some instances, cattle are brought back in at several later dates for the same purpose. Because much of the feed is in the form of old mat, this treatment is best done by fall calving cows and not by lactating spring calving cows. Meadows that are hayed are also sometimes given this treatment to add fertilizer.

Dramatic results occur with this treatment. Exotic cool seasons, such as Kentucky

bluegrass, are suppressed and native warm seasons, such as switch grass, increase in vigor and density. The disadvantage is the loss of the unit for nesting in the year of treatment and a lower waterfowl nesting density in the following year. Often the unit can however be rested for up to five years following treatment. In 2006, 24 habitat units totaling 4,328 acres received a spring grazing treatment and included some areas that were later hayed.

b. Spring Short-duration Grazing

Spring short-duration grazing (ES-SD) is grazing a unit for less than two weeks during May. Generally the cattle are in the unit for only three to five days. This type of grazing is generally done in hill units to stimulate growth of grasses, especially cool seasons. The short exposure times eliminate overgrazing. In 2006, 2 habitat units totaling 601 acres had spring short-duration grazing. Where possible units grazed later in summer the previous years are grazed using this treatment. This both varies treatment and reduces disturbance to nesting cover. Most units grazed with ES-SD show excellent growth by fall.

c. Short-duration Summer Grazing

Short-duration summer grazing (SD-S) is done from June 1 through September 1. Cattle are in a unit for less than two weeks. Most units are grazed only three to five days and the cattle moved on to the next unit. Electric fences are used to break up larger units and increase stock density. Most short-duration summer grazing was completed by mid-July. In 2006, 46 habitat units totaling 13,014 acres were short-duration summer grazed. Units grazed in this method show good growth by fall if there is adequate moisture. If little or no late summer rainfall is received re-growth is less, especially in those units grazed in late July or August.

d. Summer Grazing

Summer grazing (S) is done from June 1 through September 1 and cattle are in the unit for two weeks or longer. In 2006, no habitat units were summer grazed. When we do summer grazing it is usually in larger units which have not been cross fenced.

e. Fall Grazing

Fall grazing (F) is done from September through November. Fall grazing can reduce mulch accumulations, add fertilization, and maintain grouse leks. If done at the proper time cattle will also graze out small wetlands and leave the surrounding upland vegetation alone. Generally the wetlands have green in them while the uplands have only cured grasses. Grazing in the wetlands recycles nutrients and provides pair habitat for ducks in the spring. Generally we have moved away from fall grazing. Fall grazing eliminates both winter cover and nesting cover in the following year. Some units were fall grazed in 2006 that will be given a spring grazing treatment in 2007. One unit was fall grazed after being hayed. This adds fertilizer to the soil and eventually quality and quantity to the

hay harvested. In 2006, 2 habitat units totaling 392 acres were fall grazed.

f. **Winter Grazing**

Winter grazing (W) is done during the November through April period. In winter grazing, cattle are fed hay on a feed ground in a unit. The hay comes off the refuge. When the weather is harsh the cattle feed on hay but when it is nice they graze away from the hay ground. Units with a history of winter grazing combined with feeding also have excellent growth of grasses away from the feedlot. This is due to the import of energy in the form of fertilizer. Hay is cut in the meadows. Resident wildlife also utilize waste grain from the feeding operation. Winter feeding can also be used to stabilize roads. In 2006, 6 habitat units totaling 352 acres were winter grazed.

g. **Fire**

Prescribed fire (P) and natural or wildland fire (N) are discussed in the fire section. No prescribed fires were done in 2006.

Table F 7a. 2006 HABITAT MANAGEMENT SUMMARY				
Treatment		Units	Acres	AUMS
Rest	rest (R)	246	42,690	----
Spring	spring grazing treatment (SGT)	24	4,328	1,618
	early spring short duration (ES-SD)			
	ES-SD 1-6 days	0		
	ES-SD 7-9 days	2	601	79
Summer	short duration summer (SD-S)			
	SD-S 1-3 days	17	3,077	540
	SD-S 4-7 days	21	6,006	1,062
	SD-S 8-14 days	8	4001	584
	summer (S) 15-27 days	0		
Fall	fall (F)	2	392	153
Winter	winter (W)	6	352	657
Hayed	hayed (H)	11	556	----
Fire	prescribed fire (P)	0		----
	natural fire (N)	1	<1	----
*Note: some habitat units received double treatment, primarily hayed units that were also spring grazed (SGT) or fall (F) grazed units, or rest (R) units that had N or P fires.				

8. **Haying**

About 55 acres of sandy, sub-irrigated, and wetland range sites were mowed and yielded 522 tons of hay. All or part of 11 habitat units were mowed and hayed. This year all hay units were measured by driving an ATV around the mow line with a hand held GPS unit. In the past acreages were estimates only.

The method of charging for permittee hay was changed in 2001. Now hay is put up on a 50/50 split with the permittee taking half home and feeding the other half back on the refuge at the full rate of \$22.36/AUM in the winter treatment.

An advertisement for hay to be put up on bid at Valentine National Wildlife Refuge was placed in the local newspaper. The hay is needed for stock at Fort Niobrara National Wildlife Refuge. Four bids were received and the high bid, a 50/50 split, was accepted for haying a portion of Valentine National Wildlife Refuge. The permittee put up 283 bales which were split as in the bid. Half of the bales were hauled to Fort Niobrara by the permittee.

Most of the meadows hayed are also grazed either in the fall or spring. This adds fertilization to the meadows and improves the quality and quantity of hay produced. In general we try to mow low sites with mostly reed and cord grasses.

Haying is used to provide fire protection for facilities, browse areas for Canada geese, sandhill cranes, prairie grouse, and deer and to provide hay to Fort Niobrara NWR. Mowing can also open up small wetlands for waterfowl pair habitat. Hay is also used in the winter treatment described under the grazing section of this report.

Areas to be hayed, in which we have found the endangered prairie white-fringed orchid in the past, were searched on foot. Searches were done when the plant was in bloom. Plants found were marked with lathe with orange tops and they area not mowed. Haying may be of some benefit to the orchid as most of the plants found on the refuge are in areas that are annually hayed.

9. Fire Management

No prescribed fires were done on Valentine NWR this year. We had plans to do about 2,000 acres and 3 units were prepped but none burned. This is the second year in a row that no prescribed burns have been completed.

Lindvall, Nenneman, and Kime all completed fire fighter physicals. Nenneman passed his physical and is red carded. Kime and Lindvall both failed the hearing test and sought waivers so they could continue fighting wild fires. Lindvall and Kime were allowed to be rated moderate but not arduous. This means we can continue with prescribed fire but not fight wildfire including escapes of prescribed fires. Both supplied extensive information in hopes of receiving the waivers. Both were denied. The denial of waivers will all but shut down immediate response to fires on Valentine NWR. When the seasonal firefighters leave, only one red carded firefighter is available at Valentine NWR. One person will not be able to respond in an engine. The nearest help is from Fort Niobrara NWR (35 miles) and Valentine Rural (30 miles).

Refuge Manager Lindvall and Maintenance Worker Kime appealed their denial of waivers that would have allowed them to continue fighting wild fires. The committee will meet in February 2007 and decide whether to issue waivers.

Lindvall and Nenneman assisted with prescribed fires at Fort Niobrara, LaCreek, and Yellowthroat WMA.

Three refuge and two Valentine Rural fire engines responded to the Expressway fire in Unit 33 on Valentine NWR on June 8. The lightning caused fire burned 20 bales of refuge hay and about .2 acres. The fire name comes from the extremely bumpy road into the area of the fire.

Valentine NWR firefighters Nenneman, Hunter, and Zastrow fought the Valentine Wildfire on July 16 and 17. The fire burned about 3,000 acres and ten homes in and around the town of Valentine. Drought, high winds, low humidity, pines, and grass all combined to cause extreme fire behavior. Lindvall and Kime assisted the effort, but not as firefighters, as they were denied waivers for the physical fitness requirements.

On June 27 a fire equipment demo was held at Valentine NWR. Two tracked vehicles, a Marshmaster and a Bombadier, were hauled down from a refuge in Minnesota and demonstrated. The Marshmaster holds 100 gallons, floats, and can drive out into the water of a lake to refill. The Bombadier holds 400 gallons and is much heavier. Both were tried in sand and did well. The Marshmaster is probably not as suited for sand as the track wheels are quickly worn by sand. Also demonstrated was the blackliner from Huron WMD. This unit is pulled behind a tractor and uses propane to burn a black line about 4 feet wide. We would like to try this machine in the fall to prepare prescribed fire lines.

The tree thinning and trimming around Hackberry Headquarters at Valentine NWR was completed. The project should make the headquarters area more defensible in the event of a wildfire. Six truck loads of chips were hauled to the nature trail and will be spread on the trail. We used Crescent Lake's chipper to do the work. Severity crews helped with the project.

10. Pest Management

Refuge Manager Lindvall attended a meeting on weed management called by the Cherry County Weed Superintendent on April 19. Basically the meeting was held so we could let him know what public land managers intend to do to control weeds on the properties they manage. We provided him with a list of weed we have, their locations, and our plans for control.

On June 30, a helicopter was used to spray Rodeo on Canada thistle growing along the shores of the Marsh Lakes at Valentine NWR. Forty five gallons of Rodeo was used to spray about 120 acres. The pilot GPSed the treated areas. The

pilot estimated there was about 1,000 acres additional acres of thistle on the Marsh Lakes that needed spraying. This is way more thistle than we thought was present. Fall checks showed that the spraying was fairly effective. It also had the benefit of killing some of the many trees that are starting to grow up around the lake.

In July, thistle was sprayed with Glypro using ATV mounted sprayers at Valentine NWR. A 1.5% mix of Glypro with a surfactant was used. A total of 624 fluid oz of Glypro was used. We treated 155 locations (28 locations spot sprayed or cleanup of previously treated locations and 127 locations broadcast sprayed) in 18 habitat units at the end of June and into July. The area of each location broadcast sprayed was estimated. The total of these estimates was 11.5 acres sprayed. Some of the areas treated with Glypro are showing improvement with only a few or no thistle plants present. Some, however, show little improvement. Some also look as if the area sprayed last year got control but that the plants or plant roots on the edge were not affected and sent up good growth this year.

A pesticide use proposal for helicopter spraying of thistle using Milestone was prepared and sent off for review and was approved. Dakota Helicopter contract sprayed Milestone herbicide for Canada thistle on Valentine NWR on September 28. He sprayed for 7 hours, used 23.6 gallons of Milestone, and covered about 300 acres. Both the helicopter and herbicide are expensive but hopefully effective. We could not have accomplished the spraying using our staff and equipment. Milestone has shown good control of Canada thistle in trials. The locations were GPSed by the pilot.

Some plants located on Valentine NWR that we thought were purple loostrife are instead a native loostrife. The native is smaller and grows on drier sites. It looks very similar to purple loostrife. The only actual purple loostrife ever spotted on the refuge is probably a small group of plants of the School Lake Cut Across Road that were sprayed several years ago.

In August, Valentine NWR wetlands were searched for the presence of purple loostrife. Clear, Dewey, Watts, Duck, Pelican, Hackberry, and the Marsh Lakes were surveyed by driving along the shoreline in an airboat. The botanist doing the plant inventory has also visited many wetlands on the refuge. We saw no purple loostrife. Loostrife is common on the Niobrara River and has started to move away from the river into wetlands, ditches, and meadows some distance from the river. We have had only one confirmed patch on the refuge several years ago.

In September, all known patches of leafy spurge were sprayed with Plateau herbicide at a rate of 8 oz per acre. Surfactant and fertilizer were also included in the spray. An estimated thirty two acres were sprayed in 16 different habitat units. All 53 locations were GPSed and included 12 patches of spot and cleanup

spraying and 41 of broadcast spraying. We used 332 oz of plateau and spent 43 hours doing the spraying and maintaining the equipment. Areas fall sprayed in the past with Plateau are showing good control. In some areas sprayed in previous years we could find no spurge.

The tree shears borrowed from Quivera NWR was used to cut trees out of the road ditch along about 3 miles of Little Hay Road. About 100 trees were cut.

We also hand cut about 1,000 cedar trees using a lopper. Most of this was done while out doing other work. We also sprayed about 500 small cottonwood trees along roads and dikes. Unfortunately this is just a token effort against the large number of trees that are starting to grow. The drought has allowed cottonwood trees to grow up at wetland edges and invade the prairie.

12. Wilderness and Special Areas

In 2005, Valentine National Wildlife Refuge was designated a Nebraska Important Bird Area by the Audubon Society. The IBA program is an inventory of the key sites within a state that support significant numbers and high diversity of birds. The IBA program is a conservation and education effort of the National Audubon Society and has no regulatory authority. Our application was reviewed by a technical committee which commented on the high diversity of species and the large population of greater prairie chickens found on Valentine National Wildlife Refuge.

The refuge is also recognized as an Important Bird Area by the American Bird Conservancy (www.abcbirds.org). The refuge also became a Registered Natural Landmark in 1979.

The south west part of the refuge is also a proposed wilderness area. The area designated is about 15,937 acres in size.

13. Easement Monitoring

Three FmHA easements and one development easement are managed out of Valentine National Wildlife Refuge. All were visited during the year.

Refuge Manager Lindvall visited the 349 acre Wagner easements in Knox County on July 14, 2006. The land is now owned by two individuals. Notes on the part of the easement that is a 1/4 section north of County Road 875 follow:

Brome is increasing especially in the flats along the creek. Brome had been reduced here using spring grazing treatments in the past but is now increasing with rest. The old ag field on the north west is solid brome. There are now some cedars coming back. Most had been cut in the past but many are now popping up

again. There are a few Russian olives present. Siberian elm is starting to take over much of the grassland. One small patch of Canada thistle was noted. Some patches of Kentucky bluegrass present. The creek was very low and barely running. The fence around the property looked good and there was no sign of trespass grazing. Parts of the easement have good stands of native grasses and forbs. I noted no violations of the easement terms.

I think the area needs two to three years of spring grazing or a combination of spring grazing and prescribed fire to reduce brome and K. blue and increase native grasses. The elm, cedar, and Russian olive trees need to be cut, piled, and burned.

Mike Happold from Partners for Wildlife plans on visiting the site along with Scott Wessel from Game and Parks. They may also have ideas for management as well as means to carry out the work.

Notes on the parts of the easement that are south of County Road 875 follow.

I was able to locate 5 of the fiberglass stakes that mark the boundary of the larger part of the easement. The new landowner is grazing the easement in a much improved manner. The riparian area and the grasslands look much better than in the past. The new landowner has also planted adjacent crop fields to grass. This will make it less likely that the owner would plow and plant in violation of easement terms. The pond that we cost shared on is in good condition. I noted no violations of the easement terms.

We need to go over and try to locate additional boundary markers and GPS their locations.

The Tower easement in Brown County, 440 acres, was visited on several occasions during the year. It is adjacent to our fee title Yellowthroat Wildlife Management Area. Cedars are invading the grassland and the area will need to be burned or the cedars cut. The landowner both hayed and grazed the easement this year. In the past he has not done so as I believe he had the land also enrolled in NRCS programs that restricted use. The easement has a haying and grazing plan which will need to be discussed and possibly updated with the land owner.

The landowner was contacted by phone and the 221 acre Mead FmHA easement in Keya Paha County was visited on February 8. The gate on the James property was open when we arrived and left. The lock has been changed on the gate at the Olson/Terrel property and we need to request a key.

Cedar trees continue to encroach on the grasslands of the easement. Nebraska Game and Parks was contacted and they have worked with the landowner through the Landowner Incentive Program to do a prescribed fire in the spring of 2007.

Brome, Kentucky blue grass and sweet clover continue to be a problem in the grassland. Much of the grass is matted and laying down and would benefit from a spring graze. A special use permit was issued to the landowner to do a spring graze in 2007.

The fence is up and keeping out cattle. The fence on the east easement boundary and a portion of the north easement boundary are old fence and off the property line. The survey posts are still present. If funds and time were available it would be nice to get the fence on line and improved.

The Fish and Wildlife Service also has an easement on 1,324.25 acres of land that was formerly part of Valentine NWR. This land was traded away for other lands in what we refer to as the Colburn exchange. The easement was habitat units 24B1, 24B2, 12B3, 24D (N), 24D(S), 12B4, and 12B5 which were traded for habitat units 38A, 37B, and 37C which are now part of the refuge. The easement was placed on the land to protect the endangered American burying beetle. The easement restricts development on the site. We go buy this land as we do refuge work and noted no developments.

Refuge Manager Lindvall worked with NRCS and Nebraska Game and Parks on Wetland Reserve Program evaluations and compatible use plans. These easements are hard to manage as few are with the original owners and the new owners are often out of compliance with the compatible use plans.

Refuge Manager Lindvall reviewed 3 WRP easements along with NRCS and Game and Parks staff. The Double M easement compatible use plan has expired and will need to be redone. The Hoff easement had two very nice wetlands restored. Unfortunately the water control structures were put in at the wrong elevation. The Jacobi easement was found to be out of compliance with the plan. This is the last year of a 5 year plan that has not been followed in any year. One wetland was restored this year. We discussed not issuing a compatible use plan for this property until the landowner shows us that he intends to follow the plan.

Refuge Manager Lindvall also does private lands work in the Niobrara River Valley. He met with a landowner who is interested in improving his property for wildlife. He would like to remove cedars, fence out part of his land from grazing, and increase flows through wetlands. We will try to work with NRCS and possibly Game and Parks to implement this project.

G. WILDLIFE

11. Fisheries Resources

The annual SDSU/USFWS/NGPC Fisheries Coordination Meeting was held at the Valentine Fish Hatchery on March 6. Survey and research results were presented and joint efforts for the year planned. Decisions reached were 1) not to pursue repairs to the Willow Lake Water Control Structure at this time, 2) to remove the catch and release regulation for muskie and bass from Watts Lake so as to manage this lake for pan fish, 3) to wait on stocking at Rice Lake until water levels improve, 4) to provide the state with a list of refuge water control structure in need of repair and renovation projects so they can include them in the next 5 year plan, 5) to continue with crappie stocking in Clear Lake, and 6) to evaluate the stocking success of the recently renovated Hackberry Lake.

Valentine Fish hatchery biologists trapped pike for egg collection in Dewey Lake during March. They also collected perch and bluegill at West Long Lake for the same purpose.

On October 12 and 20, the Valentine Fish Hatchery stocked the following numbers of bluegill in Hackberry Lake:

225 lbs @ 322/lb = 72,450

187.2 lbs @ 1,073/lb = 200,865

25 lbs @ 3,640/lb = 91,000

These are to supplement stockings made after Hackberry Lake was renovated in 2004.

Biologists from the Great Plains Fish and Wildlife Management Assistance Office conducted the annual fisheries survey on the refuge and provided us with a report on the results. This report is summarized here. Lakes surveyed were Clear, Dewey, Hackberry, Pelican, and West Long.

Clear Lake was sampled with electro-fishing and trap nets in the spring and with gill nets in the fall. Few perch, bluegill, or bass in the preferred size ranges were found. Only 4 black crappie were caught indicating that our efforts to establish a crappie fishery by stocking have not been successful. Our efforts to control carp in this lake using pike as a predator were successful until 2005 and 2006. Both years had much higher catches of carp than the 1992 through 2004 period. The pike in Clear are dominated by larger fish with little recruitment. The drought has reduced spawning habitat for pike.

Dewey Lake was sampled with electro-fishing and trap nets in the spring and with gill nets in the fall. Northern pike appear to be controlling carp here. Carp are spawning but few recruit to larger sizes. Unlike Clear, pike are spawning and recruiting to large sizes in Dewey. Bluegill abundance increased while perch continued to decline. There are excellent opportunities to catch bass here.

Hackberry Lake was electro-fished in June for ½ hour. This lake was renovated in 2004 and later stocked with bass, bluegill, and perch. No bluegill, pike, or carp were detected in the sampling. Good numbers of bass and perch in the stock class were found. Relative weights were good.

Pelican Lake was sampled with electro-fishing and trap nets in June. Low water caused access problems and gill netting was not done in the fall. Relative abundance of bluegill increased this year. Most are stock-quality size fish. Bass are dominated by older, large fish with good relative weights. As gill netting was not done in the fall, it was difficult to determine pike or carp abundance.

West Long Lake was sampled using electro-fishing in June. The bluegill population was dominated by sub-stock size fish with some large fish preferred by anglers also present. Bass has the highest catch per unit effort for the refuge lakes sampled and should provide excellent fishing.

H. PUBLIC USE

1. General

An effort was made to send news release to local news outlets on a regular basis. The following were sent out and appeared at least in the local paper and on the radio station.

Nebraska Department of Roads Builds Fences Along US Highway 83 to Protect Blanding's Turtles,

Natural Area Photo Contest

Blinds for Viewing Grouse Displays Available at Valentine NWR.

Wanted! Penstemon Planters.

Volunteers Plant Blowout Penstemon on Valentine NWR.

Share the Experience Photo Contest

Bob Stienhaur was interviewed and appeared on KNOP, the television station in North Platte. Bob is doing a plant inventory at Valentine NWR.

The editor of Midwest Magazine visited Valentine NWR on June 7th. He is preparing an article mainly on the Niobrara River area but may include some refuge and Sandhills information as well.

A special use permit was issued to Jon Farrar of Nebraskaland Magazine to photograph on Valentine NWR for a special issue he is preparing on the Sandhills. Jon will also provide the refuge with photos for use in brochures and presentations.

A feature article, "Botanists to Study Vegetation at Valentine" appeared on the front page of the July 5, 2006 Valentine Midland News. The article was well

written and is about the contract botanist doing a plant inventory at Valentine NWR. KNOP TV in North Platte was also up to do a story on the same subject.

The Valentine NWR bird list was updated to a wildlife list with the addition of mammals, reptiles, and amphibians. A draft of the leaflet was sent to the RO where it will be formatted and printed.

Information on construction and photos of the Valentine NWR grouse blinds was provided to Gary Kramer, a contractor, preparing a publication for the Fish and Wildlife Service.

2. Outdoor Classrooms - Students

Grand Island Public School teacher, Jeff Westerby, prepared a grant to receive funding from the National Fish and Wildlife Foundation, Nature of Learning. The request was granted in the amount of \$5,000 and students will raise blowout penstemon from seed in the school greenhouse for transplanting at Valentine NWR. They also plan on making a documentary on the plant and their work with growing and planting. It will be hands on learning about endangered plants and the refuge. Dr. Stubbendiek at the University of Nebraska will work with the students on growing the plants. The class will visit the refuge in 2007 to plant the penstemon that they are growing.

Nenneman, Lindvall, Frerichs, and Melvin all helped with the Lions Club Kids Fishing Day held at the Valentine Fish Hatchery on May 6. They taught casting, ethics, and knot tying to about 140 budding fishermen. Nebraska Walleye Trial bought each student a fishing pole and tackle box. The Lions fed everyone and the fish cooperated by biting.

Lindvall, Nenneman, Melvin, and Frerichs attended the Youth Fishing Instructor Training sponsored by the Nebraska Game and Parks on April 1 at the Fish Hatchery. All are now certified to host and at teach fishing clinics.

The University of Nebraska at Lincoln limnology class visited Valentine NWR and practiced keying out wetland plants.

4. Interpretive Foot Trails

The Civilian Conservation Corps Nature Trail goes from a parking area on the west end of Hackberry Lake to the old fire tower constructed by the CCC. An observation deck is located inside the legs of the tower and interpretive panels teach about the geology, habitats, and wildlife of the Sandhills. The local 4 H club has adopted the trail and helps maintain benches, the trail, and plant id markers. They didn't work on the trail this year.

7. Other Interpretive Programs

Chuck Melvin judged for the High School Science Fair held on February 22. Refuge Manager Lindvall taught muzzle loader safety to 23 students at the Hunter Ed Class held in Valentine on August 1.

8. Hunting

Waterfowl hunting is permitted on Watts, Rice, and Duck Lakes. Seasons and bag limits are the same as those set by the state. The 2006 season was October 7 - December 17 and December 23 - January 15. Duck hunting pressure was light at Valentine NWR. Only 2 groups were out for the October 7 opener. At the end of the month some out of state hunters started using the area. Hunting was good with quite a few birds at the refuge.

Grouse season opened on September 16 and ran through December 31 with a limit of three. Hunting pressure was light with about 35 hunters out for the opener. The hunters had good success with most having a couple of birds for the day. Most of the refuge is open to grouse hunting except the natural areas and around building sites. We have noticed a decline in the number of hunters for grouse. Nebraska Game and Parks estimated that grouse hunter numbers declined from 20,000 in 1987 to 6,200 in 2002. The hunters that were out had good success. Hunter harvest is reported through voluntary wing collection boxes placed at five locations on the refuge. In 2006 the 234 hunters that turned in wing envelopes reported harvest of 311 prairie grouse including 35 chickens, 255 sharptails, and 21 unknown. More complete information on grouse harvest can be found in section G10a.

Numbers of pheasants as well as pheasant hunters were up this year. Some hunters took limits opening weekend. An estimated 50 hunters were out opening weekend which started on October 28. The hunters had fair success getting about one or two birds per group. The season ran through January 31, 2007 with a limit of three roosters. Many of the roosters were flushing wild right from the start. It appears that the drought has helped increase pheasant populations on the refuge. Many annual plants, preferred by pheasants, have grown up along the edges of lakes and in dried up wetlands. No counts were made of the number of hunters and we do not use the wing boxes for monitoring as we do with grouse. An estimate of 200 visits by pheasant hunters is made. Some people combine a pheasant hunt with a grouse, duck, or deer hunt.

Rifle deer season ran from November 11 through 19. For the second year, Valentine NWR paid Game and Parks to run a check station on the Refuge at the intersection of Highway 83 and Little Hay Road. The station was open from 8:00 AM to 8:00 PM on both the opening and last weekend of the season. Most of the deer checked were on the opening weekend. Refuge LE Officers used a leaflet and contacts to encourage hunters to use the station. The check station was run to

get a larger sample for testing refuge deer for chronic wasting disease. Some Refuge deer were also checked in town and had samples for disease testing taken.

Most of the deer hunting takes place on the opening weekend of the season. Some hunters reported seeing lots of deer and others few. We again had many out of state hunters. There was some confusion with season choice permits. These are tags for 2 does in the Sandhills Unit that are designed to lower deer numbers where depredations are a problem. It was not clear until after the tag was purchased and the information sheet printed, that the tags were not good on Valentine NWR. We did see some of these permits and most people seemed to know that they were not good on the refuge. Nebraska Game and Parks was contacted and will make it clear in next year's brochure. Again we saw state wide buck and youth permits as well as the usual Sandhills and Calamus West. It did not appear that as many refuge hunters were buying 2 permits this year.

A total of 58 deer was recorded as harvested during the rifle season on Valentine NWR. This includes deer taken under Sandhill and Calamus West general refuge permits, state wide buck permits, and statewide youth permits. Many hunters from out of state as well as Nebraska come to the Refuge in search of the big buck. Of the sample of 33 buck deer aged, 5 whitetails and no mule deer were 3.5 years or more in age. It appears that hunters are harvesting most bucks before they reach the age where they get trophy antlers. More complete information on deer harvest can be found in section G8. Numbers come from records obtained at Nebraska Game and Parks check stations and the refuge check station.

All of the refuge west of Highway 83 is in the Sandhills Deer Hunting Management Unit and all east of the highway is in the Calamus West Unit. In 1995 Nebraska Game and Parks removed Valentine NWR from the area where only Sandhills permits were valid. Starting in 1997, a statewide bucks only permit was also available. Eight bucks were reported as harvested on the refuge with state wide buck permits this year. This year there were also youth statewide permits available and 3 deer were reported as harvested under these permits. The refuge probably receives about the heaviest hunting pressure of any location within the units but a quality hunt is possible especially if opening day is avoided.

The refuge is also open for muzzle loader deer hunting. The season runs from December 1-31. Hunting pressure for this deer season was light. One buck and one doe were reported harvested by muzzle loader hunters.

The refuge is also open to archery deer hunting which runs from mid-September through the end of December. Archery deer hunting is not permitted during rifle deer season. Only a few hunters were known to have visited the refuge for archery hunting. No deer were checked in and recorded as taken during archery season on the refuge.

Coyotes can be hunted on the refuge from December 1 through March 15. A free permit is required. The permit is a postcard that the hunter returns at the end of

the season. There is no charge for the permit. Running coyotes with dogs is not permitted. For the 2005-2006 season, 52 permits were issued and 25 returned (48 percent return rate). Seven successful and reporting hunters took 15 coyotes. Many of the coyotes on the refuge and in the surrounding area have mange. Some have only hair left on their heads. The number of successful hunters has remained fairly constant over the past 4 years, but the number of permits issued and the number of coyotes taken has been declining.

The refuge is also open for dove hunting but few hunters come here specifically to hunt doves. A few are shot by grouse and pheasant hunters.

9. Fishing

Nine refuge lakes (Watts, Rice, Duck, West Long, Pelican, Hackberry, Dewey, Clear, and Willow) are open to fishing year round. Fishing, especially ice fishing, accounts for most visits to Valentine NWR. Willow Lake had a complete winter kill in the winter of 2002 – 2003 and there was a partial summer kill on Rice Lake in 2003. These lakes were open to fishing but received no fishing visits. Hackberry Lake received no visits this year as it was renovated in 2004 and the fish are still too small for harvest. Most of the visitation for the refuge is for fishing. Not enough counts were made to provide a good estimate for fishing visits.

There was sufficient ice for ice fishing from December 2, 2005 through December 27, 2005. Then unusually warm weather at the end of December melted up to 16 inches of ice that had formed. For perhaps the first time ever there was not sufficient ice in January for winter fishing at Valentine NWR. Ice formed again on February 19, 2007 for a short time but few fishermen came out. By the end of February ice fishing was over.

There quite a few fishermen on Valentine NWR during May, mostly fishing for pike. LE Officer Melvin counted 53 boats on one Saturday and 70 on another. They had pretty good success, especially earlier in the month.

Few fishermen were out for fall fishing. Water levels are low and access from our boat ramps is difficult for all but the smallest boats. Those out also had poor success, especially for pike.

Refuge size limits remained the same with a 15-inch minimum on bass and northern pike with a 28-inch maximum size limit (pike greater than 28-inches must be released). The state has a 15-inch minimum on bass for most public waters including the refuge. Minnows are prohibited on refuge lakes to prevent introduction of exotic fish. Gas powered boats are not allowed. After consultation with Nebraska Game and Parks, the catch and release for bass and muskie was discontinued on Watts Lake. Catch and release for both species was initially set up to provide brood stock for the Valentine Fish Hatchery. The

hatchery has not used fish from this lake for brood stock for many years. The State also enacted a 15 inch minimum on bass on public waters several years ago. Muskie have not been stocked in recent years and it is doubtful that any remain in Watts Lake. Saugeye were stocked in Watts and Duck Lakes in previous years. The state 15-inch minimum for this fish for lakes in western Nebraska applies to refuge lakes. Few Saugeye have been caught in recent years.

11. Wildlife Observation

Blinds were placed for observation of both sharp-tailed grouse and prairie chickens. The blinds were put on leks in Habitat Units 16A2 and 18B3. People come from all over the country and even a few from foreign countries to watch the grouse display. We have a reservation system for the blinds. The two blinds were booked for 30 visits.

People come to the refuge to bird watch and enjoy the prairie. No counts are made for this type of visit which seems to be on the increase.

12. Trapping

The refuge has a trapping plan and is open to trapping. No recreational trapping took place on the refuge in 2006.

17. Law Enforcement

Refuge Manager Lindvall and Maintenance Worker Kime have LE authority as collateral duty officers. We also receive much needed assistance from Chuck Melvin, full time LE officer, for the Complex.

A draft of updated Valentine NWR hunting and fishing regulations for the 50 CFR was prepared. The draft is in the new language and format now being used in the CFR.

Refuge Officers Kime and Lindvall attended the annual LE refresher held from January 30 through February 3 in Maranna, Arizona.

Refuge Officers Lindvall and Kime attended the fall LE Refresher and Qualifications held at Fort Niobrara on September 5 and 6.

Thieves stole the DU Calf Camp sign located at the Calf Camp DU dike rehab project.

Refuge Officer Lindvall sent in information and a new photo to renew his state LE credentials. Officer Kime decided not to renew.

Refuge Officers Lindvall and Kime completed the required physical exams for law enforcement.

For the year we had 1 weapons, 1 drug possession, 13 alcohol, 1 hunting, 2 fishing and 7 “other” resource violations. We did 1 search and rescue and provided emergency medical services 1 time.

18. Cooperating Associations

The Complex has a friends group, the Sandhills Prairie Refuge Association, that does projects on Valentine NWR. The group sponsors the book and souvenir sales at the Fort Niobrara Visitor Center and has a quarterly newsletter.

Refuge manager Lindvall attended the quarterly board meetings. This year the group funded the plant inventory done by Botanist Bob Stienhaur (see section E.5).

They also provided lunches for volunteers who came out to plant blowout penstemon on the refuge (see section E.4).

I. EQUIPMENT AND FACILITIES

1. New Construction

Construction of the Pony Lake Storage Building is described in the 2005 Annual Narrative. Problems were somewhat sorted out in 2006 and the building was accepted. The problem with the concrete in the Pony Lake Storage building was not resolved. The contractor provided satisfactory plans for repair of the pipe bollards and frost slabs and did the work. The contractor did not provide a satisfactory solution to the lack of a keyed joint on the main slab. The contractor’s engineer stated that the work done is satisfactory even though it was not done according to the plan.

The slab on the building was load tested using our 4 by 4 dump truck full of sand. Before testing there were 3 cracks in the concrete. After driving over the slab there were 14 cracks totaling 68.5 feet! Two of the existing cracks ran to the next seam. The information was sent to Engineering and Contracting but there is little we can do as the slab was accepted with a \$15,000 penalty to the contractor. Even though getting the building done was a giant hassle and it was not done to plans, it is certainly nice to have a place to store our equipment out of the weather.

One and three quarter mile of boundary fence at Valentine NWR was replaced using grazing receipts.

All the windmills at Valentine NWR were serviced. Staff from Fort Niobrara helped with the work.

2. Rehabilitation

A section of the floor in the trailer house was replaced. The floor was damaged by water from the air conditioner. A new larger air conditioner with proper drainage was installed. Wind damage to the skirting and siding of the trailer was also fixed.

The floor on the stake bed truck was replaced with a new wooden floor.

A new deck was put on Pony Lake Quarters 20. The old deck was rotted and a safety hazard.

Repair and upgrade to the access road and parking lot at the west end of Dewey Lake was completed. The road was shaped and large rock was put down as a base and small rock added as a finish. Previously this was a sand trail that acted as a sand trap for visitors vehicles. Some trees were cut to make the parking area larger.

3. Major Maintenance

The wooden bed on the International stake bed truck was replaced.

The drain for the pump house at Hackberry HQ was dug up and replaced. It seemed to plug every year and we could open it up. This year there was no getting it open so it had to be replaced.

The rain gutters on the Pony Lake Quarters were replaced using a contractor.

The Watts Lake dock was repaired and put back in the lake.

The roof on the public restrooms at Hackberry Headquarters was repaired and shingled.

The Panther airboat was taken to a fiberglass repair shop for a repair estimate. The ribs are separating from the hull. The repair estimate was \$2,000 to \$3,000. A new hull costs about \$3,000 plus shipping and would be more durable so this is the route we plan on taking if funds are available.

About 100 trees were cut off the Watts Lake dike and piled for burning. We used the tree shears that we have borrowed from Quivera National Wildlife Refuge.

Trees growing in the ditch along Little Hay Road and the Dewey Lake west boat ramp access road were cut using the tree shears on loan from Quivera NWR. We got about 2 additional miles done and then the shears developed another leak in the hydraulics.

The road shoulders of all the public use trails at Valentine NWR were mowed with the new mower we received in trade for the defective unit they originally provided. We had some problems with the replacement but at least were able to get the job finished with only one breakdown.

All the refuge signs were checked and replacements put up prior to the opening of the grouse season.

A roto-tiller with chain drags was used to smooth trail roads at Valentine NWR. The tiller was received off surplus from the Rocky Mountain Arsenal NWR. It was fairly effective in tacking many of the sharp bumps out of our trail roads. The east end access road was especially bumpy, in fact most people called it "The Bumpy Road."

4. Equipment Utilization and Replacement

Valentine NWR received a new TD 145 bi-directional tractor in May. The tractor was replaced using MMS funds. We also traded in the Case and Ford tractors and Massey backhoe and received some dollars from Wade Briggs to get sufficient funds to get the options we needed on the tractor. It is nice to have a new tractor with the features and power to do the work. The bi-directional, all wheel drive will come in handy. The tractor with an extra bucket cost \$94,918. It was immediately put to work on the Dewey Lake road rehab project.

Information was provided to the RO on the request for information on disposal of assets at Valentine NWR. The four items identified are the Duck Hospital, the Pony Lake fire tower, the horse corrals at Hackberry, and the Willow Lake water control structure. The Duck Hospital and the Fire Tower are both national historic register eligible. All but the horse corrals would cost quite a bit to demolish.

6. Computer Systems

Valentine NWR was without e-mail or internet from May 17 to the end of the month due to a mess up in the way our satellite internet is paid or not paid.. It was supposed to be paid by the RO and was not. The provider will not hook us up even if we agree to pay at the station level. Our efforts to deal with the provider and the RO were very frustrating.

7. Energy Conservation

The house trailer, Pony Office, Trappers Shack, and public restrooms were all winterized. To save energy, we do not heat these buildings.

A new furnace was put in Quarters 1 at Valentine NWR using left over rental funds of \$6,700 obtained from the RO. Air conditioning was also added to the

building. The new furnace is a high efficiency model and replaces a low efficiency, old, high maintenance unit.

J. OTHER ITEMS

3. Items of Interest

The 480 acre Yellowthroat WMA in Brown County is managed from Valentine NWR. The area has an excellent mix of grassland and wetland. There is a water control structure located between the marsh and lake on the area. The land was acquired in fee title from the Farmers Home Administration. Much of the sandy soil on the area was farmed under center pivot irrigation prior to acquisition. The area is open to public use including hunting and fishing.

Part of the area was burned on April 17 in preparation for grass seeding. About 223 acres were burned of which we plan on seeding 160 acres with a native mix of grasses and forbs. Most of the ground to be reseeded is old crop fields.

The grass seeding was completed May. About 160 acres was seeded to big blue, little blue, switchgrass, Indiangrass, sand lovegrass, plains coreopsis, black-eyed susan, prairie coneflower, purple coneflower, and prairie aster. The was seed put in with a no till drill borrowed from LaCreek National Wildlife Refuge. All of the high ground and parts of the low ground west of the lake were seeded. A grazing permit was issued and 160 pairs grazed from May 20 through June 6 to suppress Kentucky bluegrass and brome. Unfortunately, very little rain fell in May to help the seeding. In fact this May was the driest on record. The grass planting in July and despite an ongoing drought, the planting looked ok.

Thistle was sprayed on Canada thistle at Yellowthroat WMA in July (15 gallons 1.5% mix Glypro). Only a small portion of the thistle present was sprayed. One purple loostrife plant near the boat ramp was also sprayed. This was the only loostrife plant seen. Cottonwood trees are also beginning to circle the east lake. Next year we may try season long grazing to reduce thistle and trees on at least a portion of the WMA.

Canada thistle was again sprayed in August, this time with Milestone herbicide by a contract sprayer.

4. Credits

Refuge Manager Lindvall wrote sections A; D-1 and 4; E-1,4,5,6,8; F-7,9,10,12,13; G-11, H- all; I- all; J-3: Biologist Nenneman wrote sections B; D-

5; F-1,2,5, 7 (monitoring); G-1,2,3,4,5,6,7,8,10,17. Photo credits; Mark Lindvall
- MLL; Mel Nenneman – MN; VFH – Valentine Fish Hatchery; Dr. Robert
Gibson - RG